Exhibit B – Threshold Requirements

Commonwealth of Massachusetts

Ph2ExhibitBThresholdRequireMA.pdf

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DropBox: https://www.dropbox.com/sh/3ixal0bc3db5s1j/AAAj_sNSeWzYK8arO98jElv0a?dl=0

Meet General Section Administrative Threshold. All Target Areas meet the Threshold requirements outlined in HUD's FY2014 NOFA for Discretionary Programs.

Eligible Applicant. HUD designated the Commonwealth of Massachusetts as an eligible NDR applicant (http://portal.hud.gov/hudportal/documents/huddoc?id=NDRCFactSheetFINAL.pdf).

Eligible County. All MA counties, including Berkshire, Franklin, and Hampden Counties for which NDR funds are requested, were affected by two or more qualified disasters between 2011 and 2013 and are eligible (http://www.HUDUSER.org/CDBGRDR/AppendixB).

Eligible Activity. Each CDBG-NDR activity proposed is an eligible activity (Table B-1).

Resilience Incorporated. MA has incorporated resilience into its Phase 2 application (Exhibit E, Attachment F). Protection of the natural green infrastructure of the forests will provide resilience against sedimentation, pollution and extreme streamflows. Improved forestry practices essential to maintaining the health of the forest will provide landowners with a source of revenue while creating wood pellet and nanotechnology industries, creating less expensive heating fuel and increased demand for forestry products. Redesigned culverts, green infrastructure, and wastewater/combined sewer facilities will accommodate increased streamflows; protect against erosion, sedimentation, and discharges of raw wastewater; and protect transportation and drainage infrastructure. Reliable power, heat and backup storage will protect low income persons against power and heat losses in future disasters. Local capacity building on stream-crossing re-design will ensure that communities have the practices in place to continue resiliency efforts into the future.

Meet a National Objective. Each Phase 2 activity meets the CDBG-NDR national objective of low- and moderate-income, with the exception of general administration and planning which are exempt from this requirement. In addition, the Fix-it-First activities meet the urgent need national objective.

Meet Overall Benefit. At least 50% of the NDRC funds will benefit low- and moderate-income populations as services, area benefit, housing, or jobs to meet the national objective of benefit to LMI persons.

TABLE B-1. ELIGIBLE ACTIVITIES AND TIE-BACK

Project	Description	Eligible Activity (Section)	Disaster
Fix-it-First (Most Impacted and Distressed [MID-URN] Target Area Threshold Resiliency)			
Trout Brook	Mapping, culverts, green infrastructure	105(a)(2), 105(a)(3), 105(a)(14)	DR-4028, DR-4051
Shelburne Falls Fire	Stabilize bank; electrical bldg	105(a)(2), 105(a)3, 105(a)(14)	DR-4028, DR-4051
Maple Bridge Culvert/Interceptor	Repair sewer interceptor	105(a)(2), 105(a)(3), 105(a)(14)	DR-4028, DR-4051
Nash's Mill Bridge	Repair bridge	105(a)(2), 105(a)(3), 105(a)(14)	DR-4028, DR-4051
Cole Ave Housing	Cleanup brownfield	105(a)(3); 105(a)(4), 105(a)(18)	DR-4028
Statewide Tree Planting	Plant trees; install stormwater tree boxes	105(a)(2)	DR-1959, DR-1994 DR-4028, DR-4051 DR-4097, DR-4110
Statewide Power, Heat	Solar, storage, renewable thermal for low income	105(a)(2), 105(a)(8), 105(a)(15), 105(a)(16), 105(a)(18)	DR-1994, DR-4028 DR-4051, DR-4110
Deerfield River Watershed			
River Resiliency	Map; outreach; technical assist; culverts; green infrastructure	105(a)(2), 105(a)(3); 105(a)(14), 105(a)(19), 105(a)(21)	DR-4028, DR-4051

TABLE B-1. ELIGIBLE ACTIVITIES AND TIE-BACK (cont.)

Charlemont Waste Water Treatment Plant (WWTP)/ Bldg	Study; demolition; purchase land; construct building; floodproof WWTP	105(a)(1), 105(a)(2), 105(a)(4), 105(a)(7), 105(a)(14)	DR-4028
Mohawk Trail Woodlands	Pellet generator, pellet boilers	105(a)(2), 105(a)(17), 105(a)(18), 105(a)(22)	DR-4028, DR-4051
Springfield Resiliency			
Flood Control Infrastructure	Mapping, culverts, green infrastructure	105(a)(2), 105(a)(3); 105(a)(14)	DR-1994, DR-4028 DR-4051
WWTP and CSOs	WWTP, CSO improvements	105(a)(2), 105(a)(14)	DR-4028, DR-4051
Reg. Planning Collaborative	Capacity building; guidance; assess vulnerabilities	105(a)(12), 105(a)(16)	
Administration	Administration	105(a)(13)	

Establish Tie-Back. Activities have a direct tie-back to at least one of six qualifying disasters in MA: DR-1959 (January 2011 snowstorm), DR-1994 (June 2011 tornado), DR-4028 (August 2011 Tropical Storm Irene), DR-4051 (Oct. 2011 severe storm and snowstorm), DR-4097 (Hurricane Sandy) and DR-4110 (February 2013 severe winter storm, snowstorm and flooding) (Table B-1).

Benefit Cost Analysis. A Benefit Cost Analysis for the Trees for Resilience was completed in compliance with Appendix H. Benefits to Target Areas, and to the United States, are demonstrated to justify the costs.

One Application per Applicant. The Commonwealth of Massachusetts is submitting one application.

Execute Certifications. All required certifications can be found in Attachment C.

Most Impacted and Distressed/Unmet Recovery Needs.

City of Springfield Target Area (Attachment E: Figure B-1) is in Hampden County, determined by HUD to be **Most Impacted and Distressed** (http://www.HUDUSER.org/CDBGRDR/AppendixA) and impacted by FEMA Disaster #1959, 1994, 4028, 4051, and 4110.

***Unmet Recovery Needs for Housing*.** Fourteen affordable housing units owned by the Springfield Housing Authority (SHA) and 26 owned by Hill Homes Cooperative (HUD 202 housing) were severely impacted by the 2011 tornado, and demolished. Replacement cost for the 14 units owned by the SHA is $3,780,000. With $1,572,700 in committed funds; this leaves an unmet recovery need of $2,207,300. Replacement cost for the 26 units at Hill Homes cooperative is $17,262,465. The development has $14,788,621 in funds, leaving an unmet recovery need of $2,473,845. See Dropbox\Exhibit B\ for affidavits of damage and insufficient funding (SpringHouse1.pdf, SpringHouse2.pdf); photos of these properties (Attachment E: Figure B-2 through Figure B-6); and a MID-URN target areas checklist (SpringMID-URNchecklist.pdf).

***Unmet Recovery Needs for Infrastructure*.** FHWA/FEMA provided $2,243,855 of the needed $2,669,830 in funding for "Infrastructure Impacts due to Debris;" cost to repair damaged infrastructure from trees that fell during the tornado and October 2011 snowstorm is $425,975. The city must address debris removal and repair the roadway infrastructure to ensure future resiliency. Storm runoff severely damaged the City's Flood Control Drainage System on Riverside Road. Project cost is $6,000,000 with $50,000 available from the City. Total infrastructure unmet recovery need is $6,375,975. See Dropbox\Exhibit B\ for stamped engineering reports with sources and uses statements (SpringInfra1.pdf, SpringInfra2.pdf), and a MID-URN Checklist (SpringMID-URNchecklist.pdf).

***Unmet Recovery Needs for Environmental Degradation*.** Funding needed to repair the Van Horn Dam, Watershops Pond, Debris Removal and Drainage/Culvert Repair is $2,770,000. With $150,000 of funding available from the City, unmet recovery need for environmental degradation is $2,620,000. See Dropbox\Exhibit B\ for an engineering report and a sources and uses statement (SpringEnviro1.pdf); supporting documentation including an Upper Van Horn Reservoir Dam Inspection/Evaluation Report (2009) (SpringEnviro2.pdf), an Inspection/Evaluation Report of the Watershops Pond Dam (2013) (SpringEnviro3.pdf), a report on Drainage Culvert Repair (2011) (SpringEnviro4.pdf); and a MID-URN Checklist (SpringMID-URNchecklist.pdf).

Deerfield River Subwatershed Target Area is in Franklin County and comprises Census Block Groups 250110401001 (qualified during Phase 1 as the "Charlemont Sub-County Target Area"), 250110401002,

250110401003, 250110401004, 250110410001, 250110410002, 250110410003, 250110411001, 250110411004, 250110412001, 250110412002, 250110412003, 250110413001, 250110413002, 250110413003, 250110413004, 250110413005, 250110414001, 250110414002, 250110415021, 250110415022, 250110415023 (qualified during Phase 1 as the "Shelburne Falls [Buckland Portion] Target Area"), and 250110415024. This Target Area includes all of Monroe, Rowe, Charlemont, Hawley, Heath, Buckland, Shelburne, and Colrain, and much of Greenfield (Attachment E: Figures B-7 and B-8). The Target Area was impacted by FEMA Disasters #4028, 4051, and 4110.

***Distressed Characteristics*.** 51.23% of the residents earn less than 80% of area median income (AMI) (Deerfield LMI.pdf).

***Most Impacted for Infrastructure*.** Damage from Tropical Storm Irene included $12,742,932 to Route 2, and $1,803,000 to local roads in Buckland, Charlemont and Colrain (CharleInfra1.pdf). FHWA spent $5,632,105 to repair 6 miles of Route 2, (3 miles in Charlemont). See CharleInfra2.pdf for $1,682,030.25 in approved cost overruns for MassDOT on Route 2 in Charlemont and Savoy. See CharleInfra3.pdf (pp. 2-4) for MassDOT pay reports for $2,463,556 for Route 2 retaining wall repairs in Charlemont. Charlemont's wastewater treatment plant flooded, causing $800,000 in damage (http://www.recorder.com/home/3805574-95/plant-peters-treatment-fema). Next door, its municipal complex of fire, police and highway departments also flooded. In Colrain, damage to North Green River, Thompson, and Hillman Roads was $204,345, $116,336, and $27,149, respectively (ColrainInfra1.pdf, ColrainInfra2.pdf, ColrainInfra3.pdf). Maxam Road Bridge abutment sustained $69,565 in damage (ColrainInfra4.pdf). Water supply wells and electrical system of Shelburne Falls Fire District, serving portions of Buckland, Shelburne and Colrain, were flooded. Cost to move the electrical system and the pump house is $219,000 (ShelFallsInfra1.pdf). Hawley lost its town garage and fire station, costing $209,950 (HawleyInfra1.pdf). It also had road damage including $296,088 at Forge Hill Rd (HawleyInfra2.pdf), $280,839 at East Rd (HawleyInfra3.pdf), and $461,345 at Buckland Rd (HawleyInfra4.pdf). There was $294,197 in damage to E. Hawley Road and its drainage (HawleyInfra5.pdf). River, Turner Hill and North Roads in Monroe cost $168,820, $20,090 and $13,764, respectively, to repair (MonroeInfra1.pdf, MonroeInfra2.pdf, MonroeInfra3.pdf). In Rowe, one timber and 5 bog bridges were

damaged; repairs were $22,753 (Rowe Infra1.pdf). Flooding caused $49,436 in damages to Tatro Road in Rowe (RoweInfra2.pdf). Heath had $700,000 in damage, including to roadways (HeathInfra1.pdf). Work in Heath included $53,000 for Route 8A, $31,000 for Avery Brook Road, and $75,000 for West Branch Road (https://www.massdot.state.ma.us/desktopmodules/advancedarticles/articledetail.aspx?itemid=136&moduleid=1030&tabid=367&portalid=0). Flooding at the Green River Pumping Station Dam in Greenfield caused overtopping and breached the parapet wall, embankment, and corewall, washed out a 200-ft section of the water supply line and caused $1,021,347.02 in damage (GreenInfra1.pdf). The lowest two levels of the Greenfield Waste Pollution Control Plant, containing pumping equipment, the process control center, laboratory, and administrative offices, were inundated by flood waters and extensively damaged (http://gctv.org/node/381); cost to repair was $784,328.68 (GreenInfra2.pdf). Greenfield Department of Public Works estimated cost for other public works and infrastructure-related repair projects at $12,495,354. (http://www.townofgreenfield.org/Pages/GreenfieldMA_Planning/HazMitPlan.PDF). The abutments of Nash's Mill Bridge of Greenfield shifted as a result of high river flows. The estimated cost to elevate the bridge and move the abutments out of the water is $3,317,000 (GreenInfra3.pdf). Greenfield's Maple Brook Drainage Culvert heaved during the storm, causing increased infiltration and inflow into the Maple Brook Sewer System, which, in turn causes surcharging of sewer and drainage manholes. Estimated cost to repair the culvert is $2,134,000 (GreenInfra4.pdf, GreenInfra5.pdf)

***Unmet Recovery Needs for Infrastructure*.** Although $150,000 was spent to repair the damage to the culvert on Route 2 in Charlemont over Trout Brook (CharleInfra1.pdf), the work was performed using FHWA funds, so the repairs were limited to only what was necessary to restore the culvert to its pre-Tropical Storm Irene condition. The culvert is undersized and restricts wildlife passage and natural stream flow, particularly during floods, causing scouring, erosion and high flow velocity. Clogging of the culvert caused washout during Tropical Storm Irene; this could happen again unless the culvert is re-sized. No funds available to upgrade the culvert. Therefore, the unmet recovery need in Charlemont is $1,167,000. See Dropbox\Exhibit B\ for an engineering report (CharleInfra4.pdf), and a sources and uses statement (CharleInfr5.pdf). The Shelburne Falls Fire District, serving portions of Buckland, Shelburne and Colrain, must move sensitive

electrical controls that run its wells to an upland location in order to ensure that the water supply will not be compromised in the event of another flood. Cost is $219,000 (ShelFallsInfra1.pdf, ShelFallsInfra2.pdf). Cost to elevate Nash's Mill Bridge in Greenfield and move its abutments out of the water is $3,317,000. The Town is funding design at $317,000. Construction is $3,000,000 but state funding is not available for 8-10 years, a hardship to the Town. Cost to the Maple Brook Drainage Culvert/Sewer Interceptor in Greenfield is $2,134,000, of which the town has $134,000 available (GreenInfra3.pdf, GreenInfra4.pdf [include sources and uses statements]). Charlemont needs to move its municipal complex to higher ground and use the floodplain storage made available by the move to implement floodproofing measures at the its wastewater treatment plant. Estimated cost is $3,000,000. Total unmet recovery need for the Target Area's infrastructure exceeds $6,386,000 and is closer to $9,386,000 with the municipal complex/wastewater plant need in Charlemont. See MID-URN summary checklist (DeerfieldMID-URNchecklist.pdf).

***Most Impacted for Environmental Degradation*.** Tropical Storm Irene damaged the Shelburne Falls Fire District's water supply wells and eroded the bank of the North River (tributary to the Deerfield River) in Colrain, introducing significant sediment loads to the river and causing the wells to go offline for 7 days. This affected 2,250 water supply customers in Shelburne, Buckland and Colrain as well as the environment of Colrain. Damages were $460,000 (DropBox/Exhibit B/ShelFallsEnviro1.pdf).

***Unmet Recovery Needs for Environmental Degradation*.** On the banks of the North River in Colrain, the Shelburne Falls Fire District's wells, serving 2,200 residents of Shelburne Falls (Buckland and Shelburne) and 50 in Colrain, are vulnerable to flooding and will be a complete loss unless the bank is stabilized. North River is affected by the potential for further environmental damage because of bank destabilization from Tropical Storm Irene. Restoration will cost $460,000. MassDOT estimated that restoration of the streambed at Trout Brook/ Route 2 in Charlemont will cost $400,910. This project would complement the culvert replacement, making the site more stable and resilient to high streamflows. Total unmet recovery need for environmental degradation is $860,910. See Dropbox\Exhibit B\ for supporting documentation including a report from Field Geology Services (ShelFallsEnviro1.pdf), spreadsheet of MassDOT's Trout Brook

streambed restoration costs (CharleEnviro1.pdf), sources and uses statements (ShelFallsEnviro2.pdf, and CharleEnviro2.pdf), and a MID-URN summary checklist (DeerfieldMID-URNchecklist.pdf).

Town of Williamstown Target Area of Berkshire County (Attachment E: Figure B-9) was impacted by FEMA Disasters #1959, 4028, 4051, and 4110.

Distressed Characteristics. The entire town of Williamstown is distressed because there are three brownfields in town (MassDEPBrownfields.pdf). In addition, in census block #25003920101, 65.6% of the residents earn less than 80% of AMI, meeting HUD's criteria for distress.

Most Impacted Characteristics for Housing. Flooding during Tropical Storm Irene caused massive damage to 191 mobile homes in the Spruces of Williamstown. The structures were condemned, leaving 273 low income people, ages 55 and over, homeless and scattered throughout the region. FEMA found that 128 total housing units had serious damage (http://www.HUDUSER.org/CDBGRDR/AppendixC). In August 2015, the Berkshire Regional Planning Commission (BRPC) documented 20 housing units with serious damage that are uninhabitable (addresses are at Attachment E: Figure B-10 through Figure B-29).

Unmet Recovery Needs for Housing. In August 2015, BRPC documented 20 housing units with serious damage that are uninhabitable (addresses at Figure B-10 through Figure B-29). Cost to replace the 191 damaged housing units is $55,500,000. Available funds ($6,445,000) are from FEMA ($6,130,000) and from HUD CDBG-DR ($315,000), leaving an unmet recovery need of $49,055,000. See Dropbox\Exhibit B\ for an affidavit confirming the damage was due to Tropical Storm Irene and there is insufficient funding from insurance, FEMA, and SBA (William1.pdf) and a MID-URN checklist (WilliamMID-URNchecklist.pdf).

Reconciliation of Unmet Need with Previously Allocated CDBG-DR Funds

DHCD received $7,210,000 in CDBG-DR funds; $7,118,847 has been spent, allocated, or recommended for approval; and $91,153 is remaining. This is less than the URN threshold for infrastructure or environment (http://www.mass.gov/hed/community/funding/community-development-block-grant-disaster-recovery-.html). See Springfield's letter stating that MA's remaining CDBG-DR funds are insufficient to meet unmet recovery needs (DropBox/Exhibit B/Spring-MACDBG.pdf).